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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,214	11/20/2003	Behnam Moradi	303.591US2	3196
21186	7590	10/28/2005	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH 1600 TCF TOWER 121 SOUTH EIGHT STREET MINNEAPOLIS, MN 55402			COLON, GERMAN	
			ART UNIT	PAPER NUMBER
			2879	

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

<b>Office Action Summary</b>	<b>Application No.</b> 10/719,214	<b>Applicant(s)</b> MORADI ET AL.	
	<b>Examiner</b> German Colón	<b>Art Unit</b> 2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 August 2005.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 11-24 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 11-24 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Response to Amendment*

1. The Amendment, filed on August 22, 2005, has been entered and acknowledged by the Examiner.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-3, 5, 7, 8, 11-14 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Takemura (US 5,666,020).

Regarding claims 1, 7, 8, 11-14 and 26, Takemura discloses a field emitter display device (see at least Figs. 3 and 8), comprising:

at least one emitter **20** comprising silicon (see at least Col. 3, lines 58-61; and Col. 5, lines 9-11) having a coating **20a** comprising PtSi (see at least Col. 5, lines 23-25; and Col. 6, lines 15-19) embedded in the surface of the at least one emitter that releases electrons at a predetermined energy level. Takemura is silent regarding the limitations of “the coating acting in the presence of outgassing to inhibit degradation of the at least one emitter, the outgassing including organic matter”.

However, the Examiner notes that the reference discloses each and every claimed structural limitation with the recited coating material. The functions of inhibiting degradation of the emitter in the presence of outgassing are consequential of the properties of the coating material and "Products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable." See MPEP 2112.01. Accordingly, these functional limitations are inherently possessed by the coating material of Takemura.

The Examiner further notes that the emitters comprising silicon are formed by etching and patterning an emitter layer. As is well known in the manufacture of emitters, an etching process leaves a roughened surface with micro-pores formed at the etched surface. Hence, the coating deposited over the emitter is formed at said roughened surface and micro-pores. That is, the coating is embedded in the surface of the emitter.

Regarding claims 2-3, the claims are rejected over the reasons stated in claim 1.

Regarding claim 5, Takemura discloses the coating being a silicide compound (see Col. 5, lines 24-26).

4. Claims 1-3, 5, 11-16, 18-21, 23, 24 and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Forbes et al. (US 6,232,705).

Referring to claims 1, 11-15, 18 and 26, Forbes discloses a video display including a field emitter device (see at least Fig. 1), comprising:

a display screen for showing the video image (screen where anodes 127 are disposed);

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an array of field emission devices for forming the video image, said array of field emission devices comprising:

at least one emitter **101** comprising silicon (see at least Col. 1, lines 64-65; and Col. 6, lines 2-3) having a coating **118** comprising a silicide (see at least Col. 4, lines 9-11) embedded in the surface of the at least one emitter that releases electrons at a predetermined energy level; and

a light-emitting target that radiates when the released electrons strike the light-emitting target (see at least Col. 3, lines 62-63). Forbes is silent regarding the limitations of “the coating acting in the presence of outgassing to inhibit degradation of the at least one emitter, the outgassing including organic matter”.

However, the Examiner notes that the reference discloses each and every claimed structural limitation with the recited coating material. The functions of inhibiting degradation of the emitter in the presence of outgassing are consequential of the properties of the coating material and “Products of identical chemical composition can not have mutually exclusive properties. A chemical composition and its properties are inseparable.” See MPEP 2112.01. Accordingly, these functional limitations are inherently possessed by the coating material of Forbes.

The Examiner further notes that the emitters comprising silicon are formed by etching and patterning an emitter layer. As is well known in the manufacture of emitters, an etching process leaves a roughened surface with micro-pores formed at the etched surface. Hence, the coating deposited over the emitter is formed at said roughened surface and micro-pores. That is, the coating is embedded in the surface of the emitter.

Referring to claims 2-3, the claims are rejected over the reasons stated in claim 1.

Referring to claim 5, Forbes discloses the coating being a silicide (see at least Col. 4, lines 9-11).

Referring to claim 16, Forbes discloses the light-emitting target being coated with luminescent matter (see at least Col. 3, lines 62-63).

Referring to claims 19-21, the claims are rejected over the reasons stated in the rejection of claim 18.

Referring to claims 23-24, Forbes discloses the video display being a flat-panel display (see Col. 1, lines 12-16).

5. Claims 1, 4 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Koga et al. (US 5,925,891).

In regards to claim 1, Koga discloses a field emitter display device (see at least Figs. 1(a) and 5(a) ), comprising:

at least one emitter **17** comprising silicon having a coating **20 (23)** comprising TiN (see at least Col. 10, lines 55-61) embedded in the surface of the at least one emitter that releases electrons at a predetermined energy level. Koga is silent regarding the limitations of “the coating acting in the presence of outgassing to inhibit degradation of the at least one emitter, the outgassing including organic matter”.

However, the Examiner notes that the reference discloses each and every claimed structural limitation with the recited coating material. The functions of inhibiting degradation of the emitter in the presence of outgassing are consequential of the properties of the coating material and “Products of identical chemical composition can not have mutually exclusive

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properties. A chemical composition and its properties are inseparable.” See MPEP 2112.01. Accordingly, these functional limitations are inherently possessed by the coating material of Koga.

The Examiner further notes that the emitters comprising silicon are formed by etching and patterning an emitter layer. As is well known in the manufacture of emitters, an etching process leaves a roughened surface with micro-pores formed at the etched surface. Hence, the coating deposited over the emitter is formed at said roughened surface and micro-pores. That is, the coating is embedded in the surface of the emitter.

In regards to claims 4 and 6, Koga discloses the coating being TiN (see at least Col. 10, lines 55-61).

### *Claim Rejections - 35 USC § 103*

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes et al. (US 6,232,705) in view of Liu (US 5,880,554).

Forbes discloses the claimed invention except for the limitation of the light-emitting target being coated with phosphorescent matter. However, Liu discloses a field emitter display including phosphorescent matter to provide soft luminance and a comfortable image for a viewer of a display (see Col. 1, lines 54-56). Thus, it would have been obvious to one of ordinary skill

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in the art at the time the invention was made to use phosphorescent matter as the light-emitting target of Forbes, in order to provide soft luminance and a comfortable image for a viewer of a display.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Forbes et al. (US 6,232,705) in view of Hush (US 5,663,742).

Forbes discloses the claimed invention except for the limitation of the video display being used as a camcorder viewfinder. However, in the same field of endeavor, Hush discloses the suitability of field emitter devices as camcorder viewfinders (see Col. 1, lines 14-16). Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the FED of Forbes in a camcorder viewfinder, since Hush discloses the suitability of said displays for camcorders.

### ***Response to Arguments***

9. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

### ***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Colón whose telephone number is 571-272-2451. The examiner can normally be reached on Monday thru Thursday, from 8:30 to 6:00.

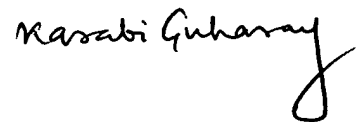


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel can be reached on 571-272-2457. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
gc

  
Nasabi Guharay